PATENT COOPERATION TREATY

TRANSLATION

From the
INTERNATIONAL SEARCHING AUTHORITY

To:

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43*bis*.1)

Date of mailing *(day/month/year)*	See Form PCT/ISA/210 (sheet 2)
Applicant's or agent's file reference 34534/PCT	FOR FURTHER ACTION See paragraph 2 below

International application No.	International filing date *(day/month/year)*	Priority date *(day/month/year)*
PCT/FR2004/002780	28.10.2004	28.10.2003

International Patent Classification (IPC) or both national classification and IPC
A61K31/37, A61K31/795, A61K47/96, A61K47/42, A61P29/00, A61P17/02

Applicant
ORGANES TISSUS REGENERATION REPARATION REMPLACEMENT - OTR3

1. This opinion contains indications relating to the following items:

☒	Box No. I	Basis of the opinion
☐	Box No. II	Priority
☒	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
☐	Box No. IV	Lack of unity of invention
☒	Box No. V	Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
☐	Box No. VI	Certain documents cited
☐	Box No. VII	Certain defects in the international application
☐	Box No. VIII	Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1*bis*(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/EP Facsimile No.	Authorized officer Telephone No.

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/FR2004/002780

Box No. I Basis of this opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

   ☐ This opinion has been established on the basis of a translation from the original language into the following language _____, which is the language of a translation furnished for the purposes of international search (under Rule 12.3 and 23.1(b)).

2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

   a. type of material

      ☐ a sequence listing

      ☐ table(s) related to the sequence listing

   b. format of material

      ☐ in written format

      ☐ in computer readable form

   c. time of filing/furnishing

      ☐ contained in the international application as filed.

      ☐ filed together with the international application in computer readable form.

      ☐ furnished subsequently to this Authority for the purposes of search.

3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

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Box No. III **Non-establishment of opinion with regard to novelty, inventive step and industrial applicability**

The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non obvious), or to be industrially applicable have not been examined in respect of:

☐ the entire international application

☒ claims Nos. 1-17 (in part)

because:

☐ the said international application, or the said claims Nos. _____
relate to the following subject matter which does not require an international preliminary examination (*specify*):

See supplemental sheet

☐ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. _____
are so unclear that no meaningful opinion could be formed (*specify*):

☐ the claims, or said claims Nos. _____ are so inadequately supported
by the description that no meaningful opinion could be formed.

☒ no international search report has been established for said claims Nos. 1-17 (in part)

☐ the nucleotide and/or amino acid sequence listing does not comply with the standard provided for in Annex C of the Administrative Instructions in that:

the written form
- ☐ has not been furnished
- ☐ does not comply with the standard

the computer readable form
- ☐ has not been furnished
- ☐ does not comply with the standard

☐ the tables related to the nucleotide and/or amino acid sequence listing, if in computer readable form only, do not comply with the technical requirements provided for in Annex C-*bis* of the Administrative Instructions.

☐ See Supplemental Box for further details.

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/FR2004/002780

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	-	YES
	Claims	1-17	NO
Inventive step (IS)	Claims	-	YES
	Claims	1-17	NO
Industrial applicability (IA)	Claims	1-17	YES
	Claims	-	NO

2. Citations and explanations:

The attention of the applicant is drawn to the fact that the present opinion issued in relation to novelty, inventive step and industrial applicability is valid only for those elements for which an international search report has been drawn up (see Box III).

1 Reference is made to the following documents:

D1: FR 2 781 485 A (BARRITAULT DENIS) 28 January 2000 (2000-01-28)

D2: ESCARTIN Q ET AL: "A new approach to treat tissue destruction in periodontitis with chemically modified dextran polymers. "THE FASEB JOURNAL: OFFICIAL PUBLICATION OF THE FEDERATION OF AMERICAN SOCIETIES FOR EXPERIMENTAL BIOLOGY, APR 2003, vol. 17, no. 6, April 2003 (2003-04), pages 644-651, XP008059847 ISSN: 1530-6860

D3: EP-A-0 093 489 (RICHTER GEDEON VEGYESZETI GYAR R.T) 9 November 1983 (1983-11-09)

D4: JEANBAT-MIMAUD VIVIANE ET AL: "Bioactive functionalized polymer of malic acid for bone repair and muscle regeneration" JOURNAL OF BIOMATERIALS SCIENCE POLYMER EDITION, vol. 11, no. 9, 2000, pages 979-991, XP008060107 ISSN: 0290-5063

2 INDEPENDENT CLAIM 1

2.1 The present application fails to comply with the requirements of PCT Article 33(1) since the subject matter of claim 1 does not meet the requirement of novelty defined in PCT Article 33(2).

Document D1 describes (claim 1, figures 4-11, page 11 paragraph 5-

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

page 20 paragraph 3) the use of the compounds of the present application (cf. figures 4-11 and claim 1) for the treatment of various irritations, with an "anti-scarring effect" (page 12 paragraph 2).

Document D2 describes (abstract, page 645, column 1, paragraph 1) the use of "RGTA" compounds (cf. figures 4-11 and claim 1) for the treatment of periodontitis and the destruction of the associated tissues (page 12 paragraph 2), which must be considered as "discomfort".

Document D3 (page 6 paragraph 3, claim 1) describes a treatment for rheumatic pain. The compounds mentioned come under claim 1.

Document D4 (abstract, page 980 paragraph 2, page 990 paragraph 1) describes the regeneration of muscles (which must be considered as "discomfort") under treatment with compounds which come under claim 1.

3 DEPENDENT CLAIMS 2-17

The claims do not contain any features which, in combination with the features of any one of the claims to which they refer, meet the requirements of the PCT in respect of novelty and inventive step (PCT Article 33(2) and (3)).

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.
Continuation of:

Box III

The present claims 1-17 relate to a very large variety of compounds, which are defined by the variables (A, a, X, x, Y, y or Z) in the definition of the compounds of formula (I) of claims 1, 7, 8, 10 and 11. However, the description provides only a support under PCT Article 6 and a disclosure under PCT Article 5 for a very limited section of the compounds.

Moreover, claims 1-17 contain so many options, variables and possible permutations that the resulting lack of clarity and conciseness under PCT Article 6 is so great that a meaningful search on the subject matter of the claims becomes impossible: none of the variables (A, a, X, x, Y, y or Z) in the definition of the compounds of formula (I) of claims 1, 7, 8, 10 and 11 is sufficiently clear and limitative to allow a complete and meaningful search. It appears in effect that the possible monomers and substituents, particularly for the monomer A, may vary considerably and are defined by terms which are vague and imprecise (cf. claim 2 "sugars, esters, alcohols, amino acids, nucleotides, nucleic acids or proteins"; claim 6 "R is selected from a linear or branched alkyl, allyl, aryl group").

Claims 3-5 and 8 relate to products which are defined by means of the following parameters: molecular mass or degree of polymerization, degree of substitution - and these parameters, moreover, are defined by unlimited range endpoints. The claims cover all of the compounds having these features, despite the fact that the description only provides a support under PCT Article 6 and a disclosure under PCT Article 5 for a very limited section of the compounds. Moreover, the use of these parameters is considered in the present context to lead to a lack of clarity under PCT Article 6. It is impossible to compare the parameters the applicant has chosen to use with what is disclosed in the prior art.

Moreover, claims 7, 9, 11 define the compounds by referring to

Supplemental Box

desirable properties, namely "additional biological or physicochemical properties (claim 7)","improved solubility or lipophilicity" (claim 9), and "therapeutic agents" (claim 11). However, the description does not provide any support and disclosure under PCT Articles 6 and 5 for such a compound possessing this effect or property, and it is not possible for the person skilled in the art to obtain it from his or her general knowledge. The lack of conformity with the requirements as to foundation is such that account has been taken of this for the purpose of carrying out the search relating to the claim and also for determining the scope thereof (PCT Guidelines, 9.19 and 9.20).

Claims 1-12 relate to the treatment of diseases defined by the terms "discomfort, distress, irritations" (claim 1).

However, the description only provides a support under PCT Article 6 and a disclosure under PCT Article 5 which are very limited for these diseases.
Moreover, the use of the definitions leads, in effect, to a lack of clarity under PCT Article 6. It is impossible to determine with certainty and without ambiguity which diseases fall within the definition claimed and which do not; nor is it impossible to carry out limitation to a recognized group of specific diseases. It is therefore impossible to know legitimately the content and the scope of the protection sought.

In the present case, these claims lack clarity, conciseness and support, and the application lacks disclosure, to a point such that a meaningful search on the entire spectrum covered by the claims is impossible.

The search for the first invention has therefore been directed only to those parts of the claims whose subject matter appears to be clear, supported and sufficiently disclosed, namely to biocompatible polymers derived according to claim 1 "RGTA" ("regenerating agents") which were tested (see description page 8 paragraph 7 - page 9 paragraph 1) in relation with the treatment of itches induced by lesions or irritations in a zone of contact with an external medium

Supplemental Box

(cf. description page 3 line 4-line 14), the treatment of pain and of pruritus, and cosmetic treatment, taking due account of the general idea on which the invention rests.